

## Effects of Farmer Field School (FFS) Training on Cocoa Farmers' Job Performance (CFJP) in Southwest Nigeria

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**Abstract:** Sustainable Tree Crop Programme (STCP) of International Institute of Tropical Agriculture (IITA) introduced Farmer Field School (FFS) in 2003 as pilot project. In 2005, FFS was scaled up and adopted by cocoa producing states in Nigeria to train cocoa farmers on Integrated Crop and Pest Management (ICPM). The study investigated effects of FFS training on cocoa farmers' job performance in South Western Nigeria. Two cocoa producing states namely Ondo and Cross River States were purposively selected, 20% of cocoa producing Local Government Areas (LGAs) were selected using simple randomly sampling technique to give 2 LGAs for Cross River and 3LGAs from Ondo State. One FFS community was selected in each LGA to obtain 5 FFS communities. In the five communities, there are 30 FFS participants per LGA this give total of 150 participants. Majority (83.8%) were male, many (60.8%), had cocoa farm size of 1-5ha, On CFJP, respondents reported to have recorded improvement in their job performance in nursery establishment (77.7%), rational pesticide use (72.3%), farm hygiene practices (83.8%), cocoa fermentation (68.7%), cocoa harvesting (76.2%), cocoa pruning (88.5%), cocoa storage (76.9%), sourcing for improved materials (43.1%), training/workshop attendance (19.2%). Inferential statistics shows that age ( $r = 0.23$ ,  $p = 0.01$ ), farm size ( $r = 0.34$ ,  $p = 0.04$ ), income from cocoa ( $r = 0.43$ ,  $p = 0.02$ ) educational status and ( $\chi^2 = 13.8$ ,  $p = 0.01$ ) show significant relationships with the level of improvement of job performance. The study concluded that FFS has had positive effects on cocoa farmers' job performance.

**Keywords:** Cocoa, farmers, job performance, FFS training, Nigeria

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### INTRODUCTION

Cocoa was one of the major sources of Nigerian foreign exchange in the early 70s before the oil boom discovery. After the discovery, there was a shift in focus from agriculture to oil exploration; before the boom, Nigeria cocoa fell from 317,000 tons in 1970-1971 to 100,000 tons in 1986-1987. Nigeria in the seventies occupied second position after Ghana, but at present, Nigeria is occupying fourth position after Cote D'ivoire, Ghana and Indonesia contributing 12% of the world production [1]. The negative trend had been traced to factors such as low yield, infestation of pests and diseases, non-availability of improved materials, poor price, and marketing problems. Nigeria's cocoa production in 2011/12 is forecast to increase to 300,000 MT, up from 280,000 MT this year. Rising international market prices for cocoa have continued to encourage Nigerian farmers to rehabilitate abandoned farms and also increase area under production. To help reposition cocoa industry and cocoa farmers in Nigeria, the International Institute of Tropical Agriculture (IITA) through the Sustainable Tree Crop Programme (STCP) introduced the Farmer Field School (FFS) approach. The approach was introduced to enlighten farmers on integrated crop and pests' management (ICPM) in Nigeria cocoa production.

The programme aimed at the following:

1. Increased farmers' capacity for research, innovation and informed decision-making;
2. Development of farmers' capacity to define their own research agenda and follow activities;
3. Stimulation of farmers to become facilitators of their own research and learning processes; and
4. Increased responsiveness to farmer-clients demands and needs by organizations in national research and extension and development systems.

The focus of the programme if well implemented is expected to bring improvement in the way cocoa farmers in Nigeria perform their jobs on their farms. It was in light of this, that this study analysed the effects of FFS training on the job performance of cocoa farmers in southern Nigeria.

This study answered the following questions.

1. What is the personal characteristic of cocoa farmers in the study area?
2. What are the cocoa farmers' farming activities affected by FFS training in the study areas?

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3. Did FFS training help cocoa farmers to improve on their cocoa farming job performance?

### **General objective**

To determine the effects of FFS training of cocoa farmers' job performance in Southern Nigeria

### **Specific Objectives**

Specific Objectives were to:

1. describe the personal characteristics of respondents;
2. identify farming activities affected by FFS training in southern Nigeria; and
3. ascertain improvement recorded in cocoa farmers job performance as a result of FFS training

### **Hypothesis of the study**

There is no significant relationship between respondents' personal characteristics and their job performance

## **LITERATURE REVIEW ON RESPONDENTS' JOB PERFORMANCE**

Job performance refers to the effectiveness of an individual while carrying out a given assignment with the aim of achieving objectives set to get such job done. The performance of people on their jobs is always affected by many factors which could be internal or external. According to Payne, job performance can be affected by many things [2]. He posited that an individual employee's performance can wax and wane significantly over any given period and that looking at the factors that can have an impact on job performance can help managers to plan in advance for the slow times.

Payne [2] further posited that job performance can be affected by 2 main factors: internal and external events. Internal events will be things that happen while at work to the employee. External events are much harder for a manager to plan for as by their nature they happen away from the workplace.

In his own view, Anderson itemized the factors affecting individual job performance as follow[3];

### **Managerial Standards**

Managerial standards can be a factor in motivating or de-motivating employees, according to technology employment resource Tech Republic. Managerial standards should be in line with the job duties outlined in the job description outlined by human resources. The background of the employee, including their educational history, is also outlined in a job description. Managers should keep their expectations in line with the duties assigned to the employee. Expecting more from an employee than they were hired for and

what their background can cope with can diminish employees' performance.

### **Motivation**

To get the best performance from employees, there needs to be some sort of motivation beyond the weekly paycheck. Motivation can come in the form of financial incentives, the opportunity to get involved in company projects, a career path that leads to management and direct involvement from management into the daily tasks. Effective motivation can create a productive work force, but a lack of motivating factors can leave employees searching for reasons to give their maximum effort.

### **Commitment**

Employees that feel as though the company has made a commitment to employee success tend to perform better, according to Personnel Systems Associates. Commitment means offering a competitive rate of pay and benefits package, offering assistance in paying for employee's higher education costs, developing a regular training schedule that keeps employees updated on company changes and gives pertinent information for employees to do their jobs and upgrading equipment to make sure that employees have the most efficient technology available to do their work. Commitment shown by the company is returned in the form of commitment from employees.

### **Employee Evaluations**

An effective employee evaluation is an interactive process where the manager gives his input on the employee's performance, and the employee gets the chance to point out what she has learned throughout the year. Managers create a plan along with the employee for the coming year on how the employee can develop and improve their performance. Comprehensive employee evaluations are important to the ongoing performance of employees.

All the factors mentioned above are applicable to farmers in one way or the other as they carry out their activities on their farms. Management standards or style, motivation in form of incentives, commitment to good agricultural practices and consistent evaluation of labourers working on framers' farm will to a large extent affects farmers' performance on the farm. One of the approaches that have been adopted by government, non-governmental organizations or other development agencies to improve farmers' performance is by exposing them to training. Such trainings in many cases have been recorded to influence job performance of farmers on their farms. Training programmes in agriculture is design to develop farmers so as to make them better entrepreneurs and decision makers and to help them organize themselves into effective associations and institutions [4].

In the same vein, Ajayi [5] defined training as a planned and systematic effort to modify or develop knowledge, skills or attitude through learning experience, to achieve effective performance in an activity. Thus, training in a work situation is concerned with extending and developing employee's capabilities and enabling them perform better in their jobs. Training can be short or long-term. In another development, Ibitoye and Onimisi [6] opined that the educational level of a worker accounts for his performance. According to them, greater productivity could be achieved through improved knowledge or skills which could be achieved through proper training and development. It is obvious that farmers with requisite educational training and experience would help in using the knowledge, skill and attitude gained for a better performance.

## METHODOLOGY

Two states namely Cross River and Ondo states were purposively selected from the 11 states planting cocoa in southern Nigeria. The selection was based on volume of cocoa and large number of cocoa farmers in this part of the country. According to Wikipedia, Cross River State is a coastal state in south-eastern Nigeria, bordering Cameroon to the east. Its capital is in Calabar and it is named for the Cross River (Oyono), which passes through the state. Ejagham and Efik are major languages of this state. Cross River State is a coastal state in South Eastern Nigeria, named after the Cross River, which passes through the state. Located in the Niger Delta, Cross River State occupies 20,156 square kilometers. It shares boundaries with Benue State to the north, Enugu and Abia States to the west, to the east by Cameroon Republic and to the south by Akwa-Ibom and the Atlantic Ocean. Agriculture is the leading sector in Cross River State. It employs about 80 per cent of the state's labour force, and contributes about 40 per cent to the Gross Domestic Product (GDP). The most important cash crops are cocoa, coffee, cotton, bananas, rubber, palm oil and kernels, and peanuts. The main food crops are plantain, cassava,

corn, millet, and sugarcane. Palm oil production has shown signs of growth. The climate allows growing a wide variety of crops. Livestock, fishing and forestry are pillars of the economy.

In addition, Wikipedia described Ondo state as having eighteen Local Government Areas, the major ones being Akoko, Akure, Okitipupa, Ondo, and Owo. The ethnic composition of Ondo State is largely from the Yoruba subgroups of the Akoko, Akure, Ikale, Ilaje, Ondo, and Owo peoples. Ijaw minority (such as Apoi and Arogbo) and Ilaje populations inhabit the coastal areas; while a sizable number of the Ondo State people who speak a variant of the Yoruba language similar to Ife dialect reside in Oke-Igbo. These people are also Yorubas. Ondo State contains the largest number of public schools in Nigeria - over 880 primary schools and 190 secondary schools. Agriculture (including fishing) constitutes the main occupation of the people of the state. Indeed, Ondo State is the leading cocoa producing state in Nigeria. Other agricultural products include yam, cassava, and palm produce.

To obtain the respondents for the study, two cocoa producing states namely Ondo and Cross River States were purposively selected from eleven cocoa producing states in southern Nigeria, 20% of cocoa producing Local Government Areas (LGAs) were selected using simple randomly sampling technique to give 2 LGAs for Cross River and 3 LGAs from Ondo State. One FFS community was selected in each LGA to obtain 5 FFS communities. In the five communities, there are 30 FFS participants per LGA this give total of 150 participants.

## RESULTS AND DISCUSSIONS

### Personal Characteristics of Respondents

The personal characteristics of the respondents such as sex, age, and yield per hectare and income per hectare from cocoa farming are as listed below.

#### Sex of Respondents

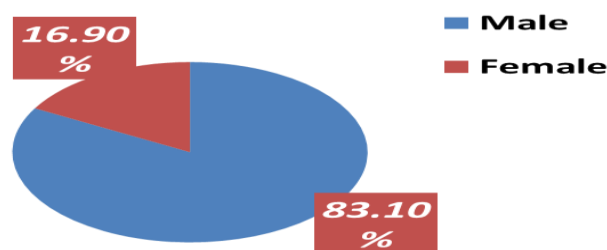
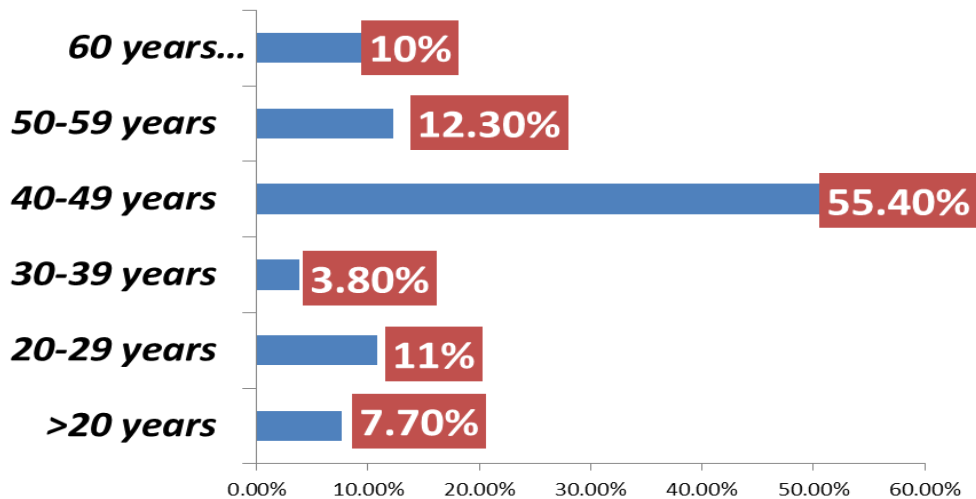


Figure 1: Pie Chart Showing Respondents Sex Categories

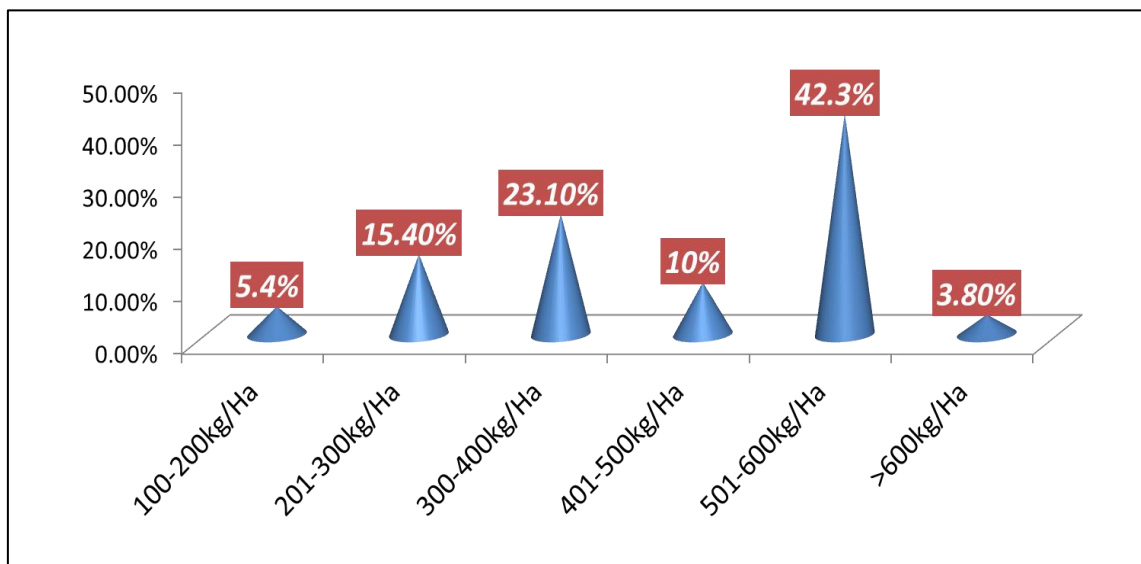


**Figure 2: Bar Chart Showing Respondents Age Categories**

According to Figure 1, majority of respondents (83.1%) were male. This could be attributed to the tedious nature of cocoa farming and the land ownership pattern in south west Nigeria that does not favour women having access to personal lands. In addition, farming is done manually among rural farmers in Nigeria; this trend favours the involvement of more men in farming operation compared to their women counterparts. Additionally, according to Figure 2, many (55.4%) of the respondents were between 40 and 49 years old while few (22.3%) were over 50 years of age, while appreciable percentage (22.5%) were below age

of 40 years. This implies that younger people are involved in FFS training in the study areas. The involvement of younger farmers in a programme like FFS is a positive development in cocoa industry. The position of this study is supported by Adekunle et al [7] as cited by Akpan [8] who posited that several studies reviewed found that about 80% of youths residing in the rural areas are engaged in agricultural activities, and about 90% residing in urban areas are engaged in non-agricultural activities.

#### Respondents' Cocoa Yield per Hectare



**Figure 3: Conical chart showing cocoa farmers' yield per hectare**

The study revealed that many (42.3%) of the respondents got average of 501kg to 600kg per hectare on their farms. This trend could be traced to the training on good maintenance practices received by these farmers from FFS training in the study areas as average cocoa farmers' yield per hectare in Nigeria is about 250

– 500 kg per hectare. International Institute of Tropical Agriculture/Sustainable Tree Crop Programme (IITA/STCP) [9] opined that the national average yields of cocoa in Nigeria range from 263-478 kg/ha.

## Cocoa Farmers' Farm Size

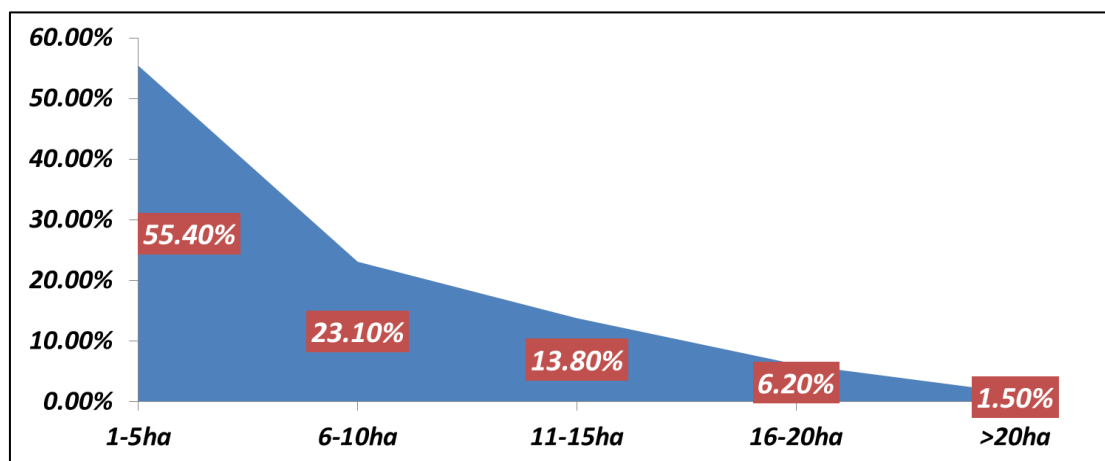


Figure 4: Line chart showing cocoa farmers' land size

Majority of cocoa farmers (78.5%) have between 1 and 10 ha of cocoa farm among this category, many of the farmers (55.4%) have between 1 and 5 ha of cocoa farm. This implies that cocoa farm sizes of the respondents are small. Hence, farmers need encouragement to maximize the potential of their

existing farms by adopting improved management and good agricultural practices. This will help them to increase their yield, income from their farms and consequently enhanced farm family livelihood pattern [10].

## Activities affected by FFS training in cocoa production in southern Nigeria

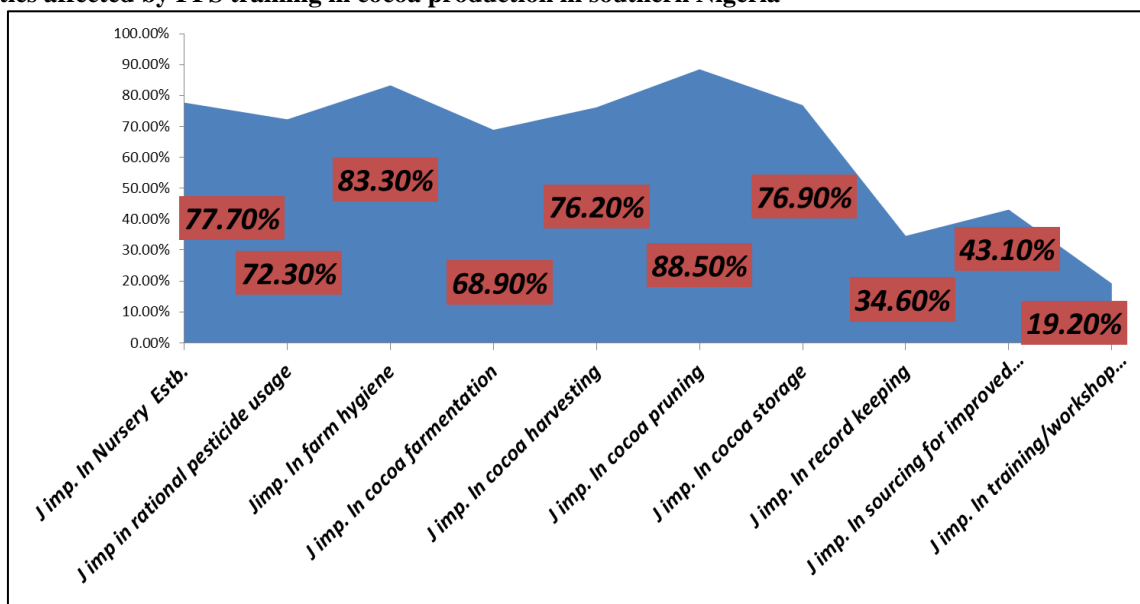


Figure 5: Line chart showing activities affected by FFS training in cocoa

The respondents reported to have recorded more improvement in their job performance in cocoa production in activities like pruning (88.5%), farm hygiene maintenance (83.3%), cocoa nursery establishment (77.7%), and cocoa storage (76.9%), while few recorded improvement in job performance in sourcing for improve materials (43.1%), record keeping

(34.6%) and training/workshop attendance (19.2%). This implies more efforts have to be made to encourage farmers' job performance in activities such as sourcing for improved materials, record keeping and training and workshop attendance as these activities could have direct or indirect effects on farmers' job performance.

## Respondents' opinion on effects of FBS training on level of improvement on cocoa farmers' job performance

S/No	Cocoa farming activities	level of Improvement on job performance							
		Very low		Low		High		Very High	
		F	%	F	%	F	%	F	%
1.	Job performance improvement in nursery establishment	9	6%	27	18%	8	5.3%	106	71%
2.	Job performance improvement in rational pesticide use	46	30.7%	8	5.3%	14	9.3%	81	54.7%
3.	Job performance improvement in farm hygiene practices	21	14%	15	10%	51	34%	63	42%
4.	Job performance improvement in cocoa fermentation	19	12.7%	18	12%	18	12%	95	63.3%
5.	Job performance improvement in cocoa harvesting	14	9.3%	27	18%	29	19.3%	80	53.3%
6.	Job performance improvement in cocoa pruning	20	13.3%	14	9.3%	15	10%	101	67.3%
7.	Job performance improvement in cocoa storage	15	10%	15	10%	55	36.7%	65	43.3%
8.	Job performance improvement in record keeping	23	15.3%	64	42.6%	36	24%	27	18%
9.	Job performance improvement in sourcing for information	57	58.7%	2	1.3%	52	34.7%	39	26%
10.	Job performance improvement in training/workshop attendance	88	58.7%	23	15.3%	28	18.7%	11	7.3%
11.	Job performance improvement in seeking marketing information	15	10%	14	9.3%	20	13.3%	101	67.3%

Source: Field Survey, 2011

The study revealed that effects of FFS training on cocoa farmers' job performance was found to be very low for activities such as training and workshop attendance (58.7%), sourcing for improved materials (58.7%), and while it was found to be very high for cocoa nursery establishment (71%), pruning (67.3%), seeking marketing information (67.3%), fermentation (63.3%), cocoa harvesting (63.3%) and rational pesticide usage (54.7%). Since all these activities affected quality, yield and price of cocoa, consequently, improvement in cocoa farmers' job performance in all these activities will result in cocoa of higher quality and better price. Since there are issues concerning quality of

Nigerian cocoa, Aturamu [11] identified low quality of cocoa as one of the factors responsible for the underutilization of some processing plants in cocoa processing companies studied. Adeyeye [10] opined that trade liberalization has affected the quality of cocoa bean, according to him, trade liberalization does not have impact on yield, but on price the farmers were only interested in the new value for their produce in monetary terms and are not so keen about improved seedlings that could improve the quality of the produce. Hence, it can be said that FFS as an extension approach is a tool that can help Nigeria cocoa farmers to live above board on issues related to cocoa quality.

### Results of the study's hypothesis

There is no significant relationship between respondents' personal characteristics and their job performance

Independent Variables/	r-value	COD (r <sup>2</sup> )	p-value	decision	%
Experience	0.56	0.31	0.03	Sig	31%
Farm Size	0.34	0.59	0.02	Sig	59%
Income/ha/annum	0.45	0.20	0.00	Sig	20%
Age	0.43	0.48	0.01	Sig	48%
Marital Status	0.68	0.46	0.09	Not Sig	40%

COD (r<sup>2</sup>) = Coefficient of Determination

Inferential statistics shows that age ( $r = 0.43$ ,  $p = 0.01$ ), farm size ( $r = 0.34$ ,  $p = 0.04$ ), experience ( $r = 0.56$ ) and income/ha/annum from cocoa farm ( $r = 0.45$ ,  $p = 0.02$ ), of respondents significantly affected the job performance respondents while and educational status ( $\chi^2 = 13.8$ ,  $p = 0.01$ ) is significantly associated with respondents' job performance. The significant relationship between age and job performance is due to the fact that farmers' age usually affect their adoption of innovation.

On respondents experience in relation to the job performance, the significant relationship between job performance and experience is due to the fact that individuals' experiences on a job usually affect their acceptance of innovation that could assist them on such job. Relationship between farm sizes and job performance is premise on the fact that farmers with large size of farms would be willing to learn more about how to handle their job in order to maximize profit on their farms. The significant relationship between income/ ha and the job performance could be as a result of farmers' ability to afford buy necessary inputs that will help them put the knowledge learnt from FFS into effective usage. The significant association between respondents' educational level and job performance in cocoa farming is a trend that shows that education level of the respondents helps them to make use of the knowledge gained from the training and also appreciate the need to invest in activities that will help them improve on their work as cocoa farmers. These findings are supported by Wilson et.al. [12] who posited that age group, managerial experience, qualification, land tenure system and farm size affect farmer's level of performance in agricultural production.

## CONCLUSION

The study concluded that FFS has had positive effects on the cocoa farmers' job performance and if properly managed, the approach has the capability of transforming the performance of cocoa farmers, thereby increasing the quality of cocoa beans, yield and income of cocoa farmers.

## RECOMMENDATIONS

- a. FFS approach should be adopted for other crops based on the effects it had on job performance of cocoa farmers in the study areas
- b. Despite the effects of FFS on other farming activities in cocoa, very low effect was reported in activities such as workshop and training attendance and sourcing for improved planting materials which have indirect effect on yield and income, hence, farmers need encouragement to pay more attention to this activities;
- c. The principles of FFS approach should be adopted by agencies providing extension services such as government agencies, NGOs in the country; and

- d. In the delivery of FFS approach in the country, attention needs to be given to record keeping by farmers as this would help them in planning their farming activities; and
- e. In the selection of FFS participants, age and educational level of the respondents needs to be put into consideration.

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